



**World Health
Organization**

REGIONAL OFFICE FOR **Europe**

**WHO Regional Office for Europe summary of
Middle East respiratory syndrome coronavirus (MERS-CoV)**

Situation update and overview of available guidance

19 June 2013

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This update summarizes the available information and recommendations made by the World Health Organization (WHO) about human infections with Middle East respiratory syndrome coronavirus (MERS-CoV) for Member States of the WHO European Region. This update will be posted once a fortnight on the WHO/Europe web site in English and Russian. WHO/Europe is working to make key documents available in Russian (listed in section 5). International Health Regulations (IHR) national focal points will continue to receive information through the Event Information Site (EIS).

WHO/Europe is coordinating its activities related to this outbreak with the European Commission, the European Centre for Disease Prevention and Control (ECDC), the EuroFlu network (www.euroflu.org) and the Community Network of Reference Laboratories for Human Influenza in Europe (CNRL).

WHO/Europe emphasizes the need for Member States to maintain the capacity to detect any unusual health event, including those that may be associated with Middle East respiratory syndrome coronavirus (MERS-CoV). Probable and confirmed cases of MERS-CoV should be notified to WHO in accordance with the International Health Regulations (2005).

1. Background

Coronaviruses are a large family of viruses that can cause illnesses ranging from common cold to Severe Acute Respiratory Syndrome (SARS). Usually, symptoms are mild to moderate and located in the upper-respiratory tract. The name coronavirus is associated with the crown-like spikes on the surface of the virus. Coronaviruses can be divided into three categories: alpha, beta and gamma, and a fourth provisionally assigned new group called delta coronaviruses. There are five coronaviruses that can infect humans and, in addition, coronaviruses may infect animals.

MERS-CoV was first reported to WHO in September 2012 but retrospective testing of previously undefined illness in cases of severe pneumonia in Jordan confirmed two cases of MERS-CoV in April 2012. Currently little is known about the natural reservoir and source of infection as well as the mode of transmission and pattern of disease.

All cases have had some link to the Middle East, although local transmission from recent travellers has been observed in some countries. Human-to-human transmission undoubtedly occurs among close contacts evidenced by the occurrence of several clusters of MERS-CoV cases in health care settings or among close family contacts. Transmission does not appear to have extended beyond these clusters into the wider community.

2. Situation update and assessment

As of 17 June 2013, and since April 2012, 64 laboratory-confirmed cases of human infection with MERS-CoV have been reported to WHO, of which 38 have died. Countries that have reported cases are Jordan, Qatar, Saudi Arabia, Tunisia and the United Arab Emirates (UAE). Cases have also been reported by four countries in the WHO European Region (France, Germany, Italy and the United Kingdom). All European and North African cases have had a direct or indirect connection to the Middle East. In France, Italy, the United Kingdom and Tunisia there has been limited local transmission among close contacts who had

not been to the Middle East but had been in contact with a sick traveller recently returned from the Middle East.

The newest cases reported indicate that the source of infection remains active in the Middle East and is present throughout a large area. The first case in Tunisia was likely infected in Qatar; however, this cannot be definitively shown without further investigation. Both the Tunisian and Qatari public health authorities are pursuing further investigations.

The appearance of cases in Europe and North Africa but not in other countries with frequent travel in and out of the Middle East is likely a result of differences in surveillance and testing. All Member States are encouraged to remind travellers returning from the affected area to seek medical attention if they develop a respiratory illness, and to test those who meet the profile described in the current surveillance recommendations posted on the WHO coronavirus web site.

Human-to-human transmission has not been observed to persist beyond small clusters of individuals with close contact. However, it is likely that more sporadic cases with subsequent limited transmission will occur in the near future. The large number of cases with reported co-morbidities suggests that persons with underlying medical conditions may have increased susceptibility to infection¹.

Clinical presentation of MERS-CoV

All cases have respiratory disease, from mild symptoms to severe pneumonia. The clinical presentation includes acute respiratory illness with fever, cough, shortness of breath, breathing difficulties and pneumonia. Atypical symptoms including diarrhoea and renal failure can be predominant if the patient is immunocompromised. The WHO case definition is published on the WHO coronavirus web site².

Although there are similarities, the MERS-CoV is not identical to SARS. One important difference is that SARS transmitted easily between humans.

Treatment

There is no specific treatment for disease caused by MERS-CoV. Treatment should be based on the patient's symptoms and supportive care can be highly effective. More details on management of cases can be found in the WHO publication *Clinical management of severe acute respiratory infections when novel coronavirus is suspected: What to do and what not to do*³.

Prevention

Since the source of the virus and the route of transmission are unknown, it is not possible to provide exact measures on how to prevent getting infected. However, important measures to prevent respiratory illness are to avoid close contact with anyone who shows symptoms of illness (coughing and sneezing) and to maintain good hand hygiene. Other good preventive measures to avoid infections that can be transmitted via the gastrointestinal route include avoiding uncooked or undercooked meats, unwashed fruits or vegetables, and drinks made without sterilized water. If you develop respiratory symptoms while travelling, you should avoid close contact with other people while you are symptomatic

and use good respiratory hygiene, such as coughing or sneezing into a sleeve or flexed elbow, medical mask, or tissue, and throwing used tissues into a closed bin immediately after use.

WHO recently published the guideline *Infection prevention and control during health care for probable or confirmed cases of novel coronavirus (nCoV) infection*⁴, which includes the necessary precautions health care workers should take when handling patients with probable or confirmed MERS-CoV.

Epidemiological and laboratory surveillance

The WHO *Interim surveillance recommendations for human infection with novel coronavirus* was published on 18 May⁵. Based on the current situation and available information, WHO encourages all Member States to continue their surveillance for severe acute respiratory infections (SARI) and to carefully review any unusual patterns.

Member States are reminded that lower respiratory specimens should be used for diagnosis in addition to nasopharyngeal swabs when they are available. If a nasopharyngeal swab tests negative, consider retesting using lower respiratory specimens such as sputum, endotracheal aspirate, or bronchoalveolar lavage. Clinicians should take care to follow strict infection prevention and control guidelines when collecting respiratory specimens of any kind. Recommendations on laboratory testing for novel coronavirus, including specimen collection and transportation, should be followed and can be found in the document *Laboratory testing for novel coronavirus – interim recommendations*⁶. In addition the document *Laboratory biorisk management for laboratories handling human specimens suspected or confirmed to contain novel coronavirus: Interim recommendations*⁷ was published on 19 February 2013.

Reporting

WHO requests that probable and confirmed cases be reported within 24 hours of being classified as such, through the regional Contact Point for International Health Regulations at the appropriate WHO Regional Office.

3. WHO recommendations

WHO/Europe reemphasizes the need for Member States to maintain the capacity to detect any unusual health event, including those that may be associated to MERS-CoV, to intensify surveillance and increase awareness, especially among medical workers and travellers.

WHO advice to health care practitioners:

- Consider the possibility of MERS-CoV infection in patients with fever, cough, shortness of breath, or breathing difficulties, or other symptoms suggesting an infection, and with a recent history of travel in the Middle East. Clinicians should be aware that MERS-CoV infection may present atypically and initially without respiratory symptoms in immunocompromised individuals.
- If a diagnosis of MERS-CoV infection is considered possible, apply infection prevention and control measures recommended by WHO, or outlined in national guidance, and refer the patient to a special infectious disease unit for further investigation.

WHO advice to ministries of health:

- Review current surveillance guidance and case definitions for case reporting available on the WHO coronavirus web site.
- Alert health care practitioners to the possibility of MERS-CoV infection in symptomatic travellers with a recent history of travel in the Middle East.
- Provide health care practitioners with clear instructions for referral of patients suspected of having infection with the MERS-CoV for appropriate management and testing.

WHO advice to travellers:

Although the source of the virus and the mechanism of transmission are unknown, it would be prudent to try to reduce the general risk of infection while travelling by:

- Avoiding close contact with people suffering from acute respiratory infections.
- Frequent hand-washing, especially after direct contact with ill people or their environment.
- Adhering to food safety and hygiene rules such as avoiding undercooked meats, raw fruits and vegetables unless they have been peeled, and unsafe water.
- Avoiding close contact with live farm or wild animals.

Travellers to the Middle East who develop symptoms either during travel or after their return are encouraged to seek medical attention and to share their history of travel. People with symptoms of acute respiratory infection should practice cough etiquette (maintain distance, cover coughs and sneezes with disposable tissues or clothing, and wash hands) and to delay travel until they are no longer symptomatic.

Based on the information available, WHO does not advise special screening at points of entry with regard to this event nor does it currently recommend the application of any travel or trade restrictions.

4. Key WHO guidance and information resources

Key WHO guidance documents and relevant web sites are listed below. As documents become available in Russian, they will be listed here in future updates.

¹ MERS-CoV summary and literature update
http://www.who.int/csr/disease/coronavirus_infections/update_20130531/en/index.html

² Revised interim case definition for reporting to WHO – Middle East respiratory syndrome coronavirus (MERS-CoV) http://www.who.int/csr/disease/coronavirus_infections/case_definition/en/index.html

³ Clinical management of severe acute respiratory infections when novel coronavirus is suspected: What to do and what not to do

http://www.who.int/csr/disease/coronavirus_infections/InterimGuidance_ClinicalManagement_NovelCoronavirus_11Feb13u.pdf

⁴ Infection prevention and control during health care for probable or confirmed cases of novel coronavirus (nCoV)infection

http://www.who.int/csr/disease/coronavirus_infections/IPCnCoVguidance_06May13.pdf

⁵ Interim surveillance recommendations for human infection with novel coronavirus as of 18 May

http://www.who.int/csr/disease/coronavirus_infections/InterimRevisedSurveillanceRecommendations_nCoV_infection_18May13.pdf

⁶ Laboratory testing for novel coronavirus – interim recommendations (21 December 2012)

http://www.who.int/csr/disease/coronavirus_infections/LaboratoryTestingNovelCoronavirus_21Dec12.pdf

⁷ Laboratory biorisk management for laboratories handling human specimens suspected or confirmed to contain novel coronavirus: Interim recommendations (19 february 2013)

http://www.who.int/csr/disease/coronavirus_infections/Biosafety_InterimRecommendations_NovelCoronavirus_19Feb13.pdf

Additional information may be obtained through the following web sites:

- [WHO headquarters](#)
- [WHO Regional Office for Europe](#)
- [European Centre for Disease Prevention and Control](#)
- [US Centers for Disease Control and Prevention \(CDC\)](#)
- [Public Health England](#) (Joint PHE/ ISARIC Clinical Decision Making Tool for Treatment of MERS-CoV)